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BEFORE THE BOARD OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
IN AND FOR THE STATE OF UTAH

IN THE MATTER OF THE REQUEST FOR AGENCY ACTION  
OF WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC,  
FOR AN ORDER AUTHORIZING THE FLARING AND VENTING  
OF GAS IN EXCESS OF THE AMOUNTS ALLOWED UNDER  
UTAH ADMIN. CODE RULE R649-3-20(1.1) FROM THE  
WOLVERINE FEDERAL ARAPIEN VALLEY 24-1 AND  
PROVIDENCE FEDERAL 24-4 WELLS LOCATED IN THE  
W1/2 OF SECTION 24, TOWNSHIP 20 SOUTH,  
RANGE 1 EAST, SLM, SANPETE COUNTY, UTAH.

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DOCKET NO. 2010-010 CAUSE NO. 269-01

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TAKEN AT: Department of Natural Resources  
1594 West North Temple, Room 1040  
Salt Lake City, Utah

DATE: Wednesday, December 8, 2010

TIME: 4:48 p.m. to 5:18 p.m.

REPORTED BY: Michelle Mallonee, RPR

ATKINSON BAKER COURT REPORTING  
JOB #A403309

APPEARANCES

BOARD OF OIL, GAS AND MINING:

Douglas E. Johnson, Chairman  
Ruland J. Gill, Jr.  
Jake Y. Harouny  
James T. Jensen  
Kelly L. Payne  
Samuel C. Quigley  
Jean Semborski (Excused)

DIVISION OF OIL, GAS AND MINING:

John R. Baza, Director  
Dana Dean, Associate Director, Mining  
John Rogers, Associate Director, Oil and Gas  
Jim Springer, Public Information Officer  
Steve Schneider, Administrative Policy Coordinator  
Julie Ann Carter, Secretary to the Board

ASSISTANT ATTORNEYS GENERAL:

Fred Donaldson - Division Attorney  
Steve Alder - Division Attorney  
Emily Lewis - Division Attorney  
Michael S. Johnson - Board Attorney

1       FOR WOLVERINE GAS & OIL COMPANY OF UTAH, LLC:

2       FREDERICK M. MACDONALD, ESQ.

3       BEATTY & WOZNIAK

4       6925 Union Park Center

5       Suite 525

6       Cottonwood Heights, Utah 84047-6003

7       Telephone: (801) 566-8446

8       FOR THE DIVISION OF OIL, GAS, AND MINING:

9       STEVEN F. ALDER, ESQ.

10      UTAH ATTORNEY GENERAL'S OFFICE

11      Natural Resources Division

12      1594 West North Temple

13      Suite 300

14      Salt Lake City, Utah 84116

15      (801) 538-7200

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I N D E X

WITNESS

Edward A. Higuera

Testimony profferd by Mr. MacDonald

Thomas W. Zadick

Testimony proffered by Mr. MacDonald

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Docket No. 2010-010 Cause No. 269-01

Wednesday, December 8, 2010

(The proceedings began at 4:58 P.M. a.m.)

CHAIRMAN JOHNSON: This is Agenda Item No. 9,  
Docket No. 2010-010 Cause No. 269-01 - In the Matter of  
the Request for Agency Action of Wolverine Gas and Oil  
Company of Utah, LLC, for an Order Authorizing the  
Flaring and Venting of Gas in Excess of the Amounts  
Allowed under Utah Admin. Code Rule R649-3-20(1.1) from  
the Wolverine Federal Arapien Valley 24-1 and Providence  
Federal 24-4 Wells Located in the W1/2 of Section 24,  
Township 20 South, Range 1 East, SLM, Sanpete County,  
Utah.

Whenever you are ready, Mr. MacDonald. You are  
representing the petitioner?

MR. MACDONALD: I am. Fred MacDonald of Beatty  
& Wozniak.

CHAIRMAN JOHNSON: And Mr. Alder, you are  
representing the Division?

MR. ALDER: Yes, sir.

CHAIRMAN JOHNSON: Thank you. Whenever you are  
ready.

MR. MACDONALD: Thank you, Mr. Chairman.

First of all, on behalf of Wolverine I'd like to  
thank the Board for agreeing to hear this motion on an

1 expedited basis. I know you've had a long day, and we're  
2 just adding it. But again, I think the testimony will  
3 reflect why it was important to have it on the expedited  
4 basis.

5 With me today are Mr. Thomas Zadick, who is the  
6 contract reservoir engineer for Wolverine, and Mr. Edward  
7 Higuera, the manager of development for Wolverine Oil &  
8 Gas Corporation, which is the parent of the petitioner  
9 and it's petroleum engineer. And I'd ask that they be  
10 sworn in at this time.

11 THE REPORTER: Will you raise your right hands,  
12 please.

13 You do solemnly swear the testimony you are  
14 about to give will be the truth, the whole truth, and  
15 nothing but the truth so help you God?

16 (The witnesses answered in the affirmative.)

17 MR. MACDONALD: Mr. Chairman, I would remind the  
18 Board --

19 MR. GILL: Mr. Chairman.

20 Mr. MacDonald, just to make sure that we have  
21 everything in as quickly as we can, rather than go  
22 through a long question and answer, would it be possible  
23 and fair to you and your client to just make a proffer of  
24 what they would say?

25 MR. MACDONALD: Certainly, if that's -- I was

1       going to offer to the fact that however bare bones the  
2       Board felt comfortable with.

3               MR. GILL:   And I'd like to ask the Chairman to  
4       ask Mr. Alder what he would think of that, and then ask  
5       the Board.

6               CHAIRMAN JOHNSON:   Mr. Alder, what would you  
7       think of that?

8               MR. ALDER:   I don't have enough information to  
9       give an opinion.   I don't know exactly the nature of the  
10      request.

11              CHAIRMAN JOHNSON:   Okay.

12              MR. GILL:   The idea is he makes the proffer.   If  
13      there's not a question about it, then it would -- from  
14      other lawyers, and --

15              CHAIRMAN JOHNSON:   Because of the fact that we  
16      have two Board members that are going to leave in 15  
17      minutes, why don't we have Mr. MacDonald proffer that.  
18      And if there are questions or concerns, then we can go  
19      into testimony from the witnesses.

20              Would that be all right?

21              So we'll see how that goes, Mr. Alder.

22              MR. ALDER:   Yes, that would be fine.

23              CHAIRMAN JOHNSON:   Play it by ear.   That will  
24      give us all, if nothing else, a good road map of where  
25      we're heading.

1           MR. MACDONALD: Again, as the Board will recall,  
2           this matter was originally heard in February of last  
3           year. It's a request for flaring and venting in the  
4           amounts that are in excess of what is allowed under the  
5           regulation.

6           At the hearing in February, there was some  
7           discussion that there was not enough data to make a  
8           proper determination to meet all the criteria required  
9           under the regulations to allow that flaring and venting.  
10          And instead, the Board agreed, based on a stipulation  
11          entered by the Division, BLM, and the petitioner, who  
12          were the only parties that appeared, that an extension of  
13          the testing period for six months or cumulative gas  
14          production of 360,000 mcf from the two wells in question  
15          was authorized with the idea that the petitioner would  
16          come back in front of the Board, analyze that data, and  
17          then hopefully have a better position to meet the  
18          criteria to allow for the flaring and venting that was  
19          requested.

20          The authorized operations on the two wells were  
21          conducted this past summer. The wells have produced.  
22          They are both now producing from the Navajo 1 formation.  
23          If you recall, one of the wells was in a lower formation  
24          that was not deemed to be economically viable at the  
25          time. But the main concern right now is that the Navajo



1        1 was the formation of interest, and it was the modeling.

2                So both wells, the operations were conducted.

3        Mr. Higuera would testify to that. He would testify that  
4        also the limitation that the Board set of the 360,000  
5        mcf, based on the current rates that are producing, would  
6        be reached by December 26 of this year. The six-month  
7        period for either well would not have been reached by  
8        that time but the cumulative gas would have at that time.

9                Both Mr. Higuera and Mr. Zadick would testify  
10       that the preliminary analysis of the data so far has  
11       provided somewhat inconclusive data regarding the nature  
12       of the oil-water boundary. In other words, the data that  
13       has been generated -- and it's reflected in the  
14       exhibits -- shows that what would have been then expected  
15       to be an active aquifer based on all the data -- knowing  
16       of the reservoir from the Covenant field as well as the  
17       analogous Nugget formation -- actually is showing now  
18       that it may be an inactive aquifer. And it's  
19       inconsistent with what was expected.

20               And one of the ways to try and confirm that  
21       trend -- if that is, in fact, the case, or if it's just  
22       an anomaly -- is for an additional testing period. And  
23       what Mr. Zadick would testify to is that Wolverine  
24       believes that an additional 60 days of testing or a  
25       cumulative limitation of 160,000 mcf -- and that's

1       reached by taking what the current rate of gas is being  
2       produced times 60 days. That's where that limitation  
3       came from -- would provide enough additional data to make  
4       a determination. And the key here, again, is that the  
5       determination of that reservoir characteristic is  
6       essential to determine how they proceed with the  
7       reservoir development, the options for injection, for  
8       example, and all these parameters that are important for  
9       the ultimate decision by the Board, again, without  
10      getting the Board's authority to go beyond the  
11      limitations it set in its March Order. That's why  
12      Wolverine is requesting this additional time.

13               The emergency comes in from the standpoint that  
14      the best test results will be achieved by a continuous  
15      testing period. Mr. Zadick actually has a very good  
16      analogy of throwing a pebble into a pond and watching the  
17      ripples and having them come back. And the problem is if  
18      you stop and you shut in the wells, it's like throwing  
19      more and more pebbles in. You don't know from which way  
20      the waves develop.

21               And so the continuity of the test is very  
22      important. So that is why they are asking -- they came  
23      on expedited basis to allow the continuation of the test  
24      so they can go an additional 60 days, take the data and  
25      analyze it, and then come before the Board, as was

1 originally anticipated to go forward. That would be the  
2 proffer.

3 The other proffer would be, obviously, the  
4 foundational elements for the supplemental exhibits that  
5 were submitted to you on these matters. And again, they  
6 were prepared by Mr. Higuera or Mr. Zadick or Wolverine  
7 personnel under their direction.

8 So with that, that's a summary and a proffer.  
9 Obviously, there's more technical aspects to it, which  
10 I'm sure either of them would be happy to answer. But  
11 that would be the proffer of the testimony.

12 CHAIRMAN JOHNSON: How do we want to move  
13 forward?

14 Let me ask Mr. Harouny or Mr. Jensen if they  
15 have any specific questions based upon what they've heard  
16 on the proffer.

17 MR. HAROUNY: I have specific questions on the  
18 test, and I have specific questions as to how much oil  
19 has been produced so far, the economics of what has been  
20 produced, and how much it has been vented at this time.

21 CHAIRMAN JOHNSON: Okay.

22 Mr. Jensen, any specific questions or concerns?  
23 How do we want to proceed?

24 MR. GILL: I think that -- let's see if we can't  
25 get this question answered in six minutes and then make a

1 decision. We'll still have a quorum. We can go back to  
2 the start. As Hilary Clinton, we can do -- what is it, a  
3 recess? -- and start from scratch and have a hearing.  
4 Or we, with no objection, of course, from counsel --

5 CHAIRMAN JOHNSON: It would be Mr. Zadick that  
6 would answer questions?

7 MR. MACDONALD: I think it would be Mr. Higuera  
8 initially. If the Board will refer to what's been marked  
9 as Supplemental Exhibit Y -- or excuse me, X, which is  
10 shown on the screen right now. That answers, I think,  
11 some of Mr. Harouny's questions.

12 But Mr. Higuera, if you would like to respond to  
13 Mr. Harouny's questions.

14 MR. HIGUERA: Yes. Directly on Exhibit X  
15 towards the bottom, the aggregate volume for both wells  
16 during this test period is listed there as 25,522 barrels  
17 of oil; 248,619 mcf, and 7699 barrels of water. That's  
18 through November 14.

19 If you go up further on the page, you'll get the  
20 individual numbers on a per-well basis.

21 MR. HAROUNY: What type of production is that  
22 per day? That's for both wells, correct?

23 MR. HIGUERA: That is the aggregate volume for  
24 both wells.

25 MR. HAROUNY: What kind of daily production is

1       that?

2               MR. HIGUERA:   The daily production on that page,  
3       the 24-4 well is making 46 barrels a day, 265 mcf a day,  
4       and 43 barrels of water per day.   And the Arapien Valley  
5       24-1 is producing 221 barrels of oil per day, 2389 mcf,  
6       and 6 barrels of water per day.   That's as of  
7       November 14.

8               MR. HAROUNY:   So the 24-1 is making a little  
9       over 2 million cubic feet of gas a day?

10              MR. HIGUERA:   Correct.

11              MR. HAROUNY:   So an additional 60 days, that  
12       would equate to approximately 160 --

13              MR. HIGUERA:   That is correct.

14              MR. HAROUNY:   -- 160 million cubic feet of gas?

15              MR. HIGUERA:   160,000 mcf.

16              MR. HAROUNY:   Mcf.   160 million cubic feet, I'm  
17       sorry.

18              MR. MACDONALD:   I would like to also point out  
19       to the Board, if I may, as far as the proffer goes,  
20       additional testimony would be that with the Navajo 1, if  
21       you may recall, the inert gasses, it's mainly CO2, it's  
22       not hydrogen sulfate.   Also, all the safety measures have  
23       been in place.   The gas has been vented.   There has been  
24       no issues that have occurred to date.   There has been no  
25       complaints, or any situation like that.

1           It's also, to point out for the record, that the  
2 Bureau of Land Management -- this is a federal unit in  
3 federal lands. The Bureau of Land Management has filed a  
4 letter in support of this request for the additional  
5 testing period, as well. And that's part of the record.

6           MR. HAROUNY: The gas is CO2?

7           MR. MACDONALD: Ed, do you want to testify to  
8 that?

9           MR. HIGUERA: Yes. If you recall, the Navajo 1  
10 was primarily CO2 and nitrogen. It was approximately  
11 82 percent CO2, and about six percent nitrogen, the rest  
12 being the hydrocarbon.

13          CHAIRMAN JOHNSON: Any other questions?

14          MR. HAROUNY: No. So I believe your opinion  
15 back then was that this gas is not marketable?

16          MR. HIGUERA: That is correct.

17          MR. QUIGLEY: Is that true for both wells?

18          MR. HIGUERA: The gas is true for both wells on  
19 the Navajo 1. If you recall, though, the Arapien Valley  
20 24-1 had a Navajo 2 section. And that had a different  
21 gas composition. And as we testified in the earlier  
22 Board meeting, it had, in our opinion, a limited  
23 volume -- extent of reservoir volume. So we focused our  
24 efforts on the Navajo 1, which was the larger reservoir  
25 and more complex fluid system.

1                   MR. HAROUNY: Do you have any idea how much of  
2                   the 24-1 gas is coming from Navajo 2?

3                   MR. HIGUERA: Zero. Navajo 2 has been isolated.  
4                   So all that gas and all the oil is all Navajo 1  
5                   production.

6                   MR. JENSEN: And that's what you'd propose to  
7                   continue, the Navajo 1?

8                   MR. HIGUERA: Yes. Continue testing both wells  
9                   as is for the incremental 60 days.

10                  MR. GILL: I'd like to talk -- take two minutes  
11                  to talk to the Board -- just in this room.

12                  CHAIRMAN JOHNSON: Can we take a five-minute  
13                  break?

14                  MR. MACDONALD: Sure, Mr. Chairman.

15                  CHAIRMAN JOHNSON: Okay.

16                  (A break was taken from 5:12 p.m. to 5:15 p.m.)

17                  CHAIRMAN JOHNSON: Let's go back on the record.

18                  Mr. Alder, unless you would like to proceed with  
19                  some questions for the witnesses or questions of Division  
20                  staff or from Division staff, the Board is prepared to  
21                  make a decision. We would like to give you the  
22                  opportunity to address whatever you'd like to on this  
23                  matter.

24                  MR. ALDER: The Division reviewed this matter  
25                  previously and had some of the same information that was

1 just discussed. And we're in support of it for another  
2 60 days, with the understanding that there would not be a  
3 repeat of that continuance for another 60 days.

4 And other than that, we have no additional questions  
5 for the witnesses and believe that the evidence that's  
6 been provided is sufficient to support the request.

7 CHAIRMAN JOHNSON: Okay.

8 Mr. MacDonald.

9 MR. MACDONALD: Yes, Mr. Chairman. Just as a  
10 standard cleaning up situation, we do need to move for  
11 admission of those exhibits, based on the proffered  
12 testimony and the foundation so that it becomes part of  
13 the record.

14 MR. GILL: We can do the cleaning up while we  
15 still have a quorum, but...

16 CHAIRMAN JOHNSON: Let me ask real quickly: Is  
17 there anyone else present who would like to address the  
18 Board on this matter? Okay.

19 MR. JENSEN: Fred, you'll get your exhibits  
20 introduced.

21 And I make the motion that we approve the  
22 request as requested. And that it's the intent of this  
23 Board that this will be the last extension.

24 MR. GILL: Second that one.

25 CHAIRMAN JOHNSON: Okay. Any discussion?



1 All those in favor say "Aye."  
2 THE BOARD: Aye.  
3 CHAIRMAN JOHNSON: Anyone opposed?  
4 So we'll grant the request.  
5 Mr. MacDonald, you'll prepare an Order?  
6 MR. MACDONALD: I will, Mr. Chairman.  
7 CHAIRMAN JOHNSON: If you two need to go, please  
8 go ahead.  
9 Before we close, though, Mr. Alder, do you have  
10 any objections to the exhibits being entered?  
11 MR. ALDER: (No audible response.)  
12 CHAIRMAN JOHNSON: So Mr. MacDonald, it's  
13 Exhibits W, X, Y, Z, BB --  
14 MR. MACDONALD: It would be double A.  
15 CHAIRMAN JOHNSON: AA, BB, CC, DD, EE.  
16 MR. MACDONALD: Correct. W through double E,  
17 inclusive.  
18 CHAIRMAN JOHNSON: Okay.  
19 Mr. Alder, any objections?  
20 MR. ALDER: Mr. MacDonald, do you think there's  
21 any additional foundation necessary to make them part of  
22 the record? They were prepared by your witnesses?  
23 MR. MACDONALD: That was the proffered  
24 testimony, is that my witnesses either prepared them or  
25 they were prepared under their supervision.

1                   MR. ALDER:   No objection.

2                   CHAIRMAN JOHNSON:   Does the Board have any

3                   objections or questions on any of them?

4                   Okay.   So those will be admitted.

5                   I think that's it, then.   Okay.

6                   Mr. MacDonald, will you prepare the Order?

7                   MR. MACDONALD:   I will, Mr. Chairman.

8                   CHAIRMAN JOHNSON:   We hope your testing is

9                   successful.

10                  MR. MACDONALD:   Thank you.   Happy Holidays to

11                  all of you, as well.

12                  CHAIRMAN JOHNSON:   Any other matters?

13                  MR. GILL:   Move to adjourn.

14                  CHAIRMAN JOHNSON:   Does anyone want to address

15                  the Board on any other matters?

16                  We have a motion to adjourn.   Is there a second?

17                  MR. PAYNE:   Second.

18                  CHAIRMAN JOHNSON:   All those in favor say "Aye."

19                  THE BOARD:   Aye.

20                  CHAIRMAN JOHNSON:   Anyone opposed?

21                  All right.   We're adjourned.

22                  (The matter was concluded at 5:18 p.m.)

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Michelle Mallonee, RPR, CSR